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AUTHOR: Yeremeyev, I.S.

TITLE: Universal magnetic logic elements for automation

PERIODICAL: Priborostroyeniye, no. 12, 1962, 17-18

TEXT: The author describes universal magnetic logic elements as developed by him at the Otdel avtomatizatsii Instituta liteynogo proizvodstva AN SSSR (Department of Automation of the Casting Industry, AS USSR). Each element is a single-core half-cycle magnetic amplifier, with four input and three output connections. There are 7 terminals: direct, diode and repeater inputs; common lead (earth), the direct and diode outputs and the input of supply voltage phase. The above elements can easily form simple logic circuits including storage and adding circuits. The elements have toroidal, 10 x 6 x 2 mm, HM-2 type rectangular hysteresis loop ferrite cores, operating at 10 kc/s with a 10 V supply voltage. The germanium diodes used are type Д9Б (D9B). The control winding has 100 and the working winding 300 turns of ПЭЛШО-0.15 (PELShO-

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0.15) wire. The circuit operates satisfactorily with supply voltages varying by $\pm 20\%$. One logic circuit can be loaded by up to 6 others or by one control winding of the intermediate magnetic amplifier. All components are mounted on a printed circuit board having dimensions 24 x 20 x 2 mm. The universal logic circuits described make it possible to design cheap and reliable automatic control systems for industrial processes. There are 6 figures.

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